USGS
science for a changing world

Mineral Industry Surveys

For information, contact:
Jozef Plachy, Zinc Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4982, Fax: (703) 648-7757
E-mail: jplachy@usgs.gov

Samir Hakim (Data)
Telephone: (703) 648-4998
Fax: (703) 648-7975

Internet: http://minerals.usgs.gov/minerals

ZINC IN NOVEMBER 2002

Domestic mine production in November, at 63,900 metric tons (t), was about 10% less than in October, but was about 3% more than in November 2001. Smelter production, at 21,800 t, was about 35% more than in October and about 9% more than a year before. Apparent consumption, at 91,000 t was about 4% more than in October and about 10% more than in November 2001.

The Platts Metals Week average monthly composite price for North American Special High Grade zinc increased by about 1%, to 38.09 cents per pound in November; the price was about 1% lower than in November 2001.

Canadian miner Noranda Inc. announced that it is postponing the development of its Perseverance zinc deposit, located near Matagami, northern Quebec, citing low zinc prices. The Perseverance deposit, which consists of three high grade zones—Perseverance, Equinos, and Perseverance West—has a total resource estimated at 5.1 million metric tons (Mt) grading 15.8% zinc, 1.2% copper, 29 grams per ton (g/t) silver, and 0.4 g/t gold. Noranda budgeted $2.2 million for exploration that should be completed by yearend 2003. Since its current Bell-Allard zinc mine has reserves for an additional 2 years, there will be a minimum 15-month delay between closure of the Bell-Allard Mine and the commercial start-up of Perseverance (Platts Metals Week, 2002b).

Xstrata plc of Switzerland has announced that its subsidiary, Asturiana de Zinc SA, has signed an agreement to acquire the Nordenham zinc smelter from Metaleurop SA for $100 million. The acquisition will be executed through a newly created Metaleurop subsidiary, Metaleurop Zinc Holding GmbH, which will enable Xstrata to exclude any historical environmental and other liabilities of the parent company. The Nordenham smelter is one of the world's most efficient and profitable zinc producers. It is located near Bremerhaven, northern Germany, and has an annual capacity of 133,000 t of zinc metal. The acquisition will increase Xstrata's annual zinc capacity to 600,000 t, from the current 470,000 metric tons per year (t/yr), accounting for 20.5% of the European zinc production. Located in the industrial sector of northern Europe, it will complement Xstrata's San Juan de Nieva zinc smelter in Spain. Because of its location in the highly industrialized part of Germany, it is possible that the Nordenham smelter may in time be expanded to 250,000 t/yr (Brigitte Mattenberger, Xstrata plc, written commun., December, 2002). The next target of Xstrata's stated goal of global expansion is one of the largest Australian diversified mining companies—MIM Holdings Ltd. MIM confirmed that it was in discussion with Xstrata, but it stressed that these discussions are at an early stage and that no agreement has yet been reached. MIM produced 319,200 t of zinc in concentrate from the Mount Isa Mine (Queensland) and from the 75%-owned McArthur River Mine (Northern Territory), and 184,200 t of zinc metal from its Avonmouth smelter (United Kingdom) and the recently sold Duisburg (Germany) smelter in the fiscal year ending on June 30, 2002 (Mining Journal, 2002). Before acquiring the Nordenham smelter, Xstrata already operated 28 coal mines; a zinc mine and smelter in Spain; chrome and vanadium operations in South Africa and Australia; and a magnesium recycling operation in North America (Platts Metals Week, 2002c). Even before the unsolicited overture and continued negotiations with Xstrata, MIM was considering closure of its Avonmouth smelter. Britannia Zinc Ltd. (MIM's subsidiary) is currently preparing a final proposal to be submitted to the union that would initiate a 90-day consultation period before a final decision is made about the future of the smelter (CRU International Ltd., 2002).

For 2003, China has issued export quotas of 600,000 t to individual zinc companies, but it is unlikely that this quota will be reached if the LME price remains below $900 per ton. The export quota for 2002 was set at 650,000 t but the actual exports may be well below this amount. Based on the first 9 months, only slightly over 500,000 t of zinc and zinc products were exported. According to China Minmetals Group, the Chinese state-owned metals trading group, the Chinese producers are facing difficulties in obtaining zinc concentrate for their smelters. Zinc production is expected to drop to 1.94 Mt in 2002, from 2.04 Mt in 2001. For 2003, China's zinc output may fall even below 2002's (Platts Metals Week, 2002a). This declining output is occurring at the time when Chinese demand

for galvanized steel is increasing. China's car sales exceeded one million units in the first 11 months of 2002, a 54% increase in sales compared with the same period in 2001. Because only about one-third of all cars sold in China are produced by domestic producers and because some of the galvanized steel for these cars must be imported, increased car sales in China will help foreign producers of zinc and galvanized steel (Metal Pages, 2002§[1]). One of the biggest beneficiaries of inadequate zinc output in China is Kazakhstan, which increased its exports to China during the first 9 months of 2002 to 7,170 t compared with 413 t during the same period in 2001. This increase was the result of the preferential border trade policy passed by the Chinese Government that permits lowering of tariffs by 50% (Metal Bulletin, 2002a). Shortage of zinc concentrate on the Chinese market may restrain other companies, but it was not an issue for at least one company—Yunnan Chihong Zinc & Germanium Co. The company submitted a proposal to the Chinese Government and, at the same time, began construction of a 100,000-t/yr addition to its existing 60,000-t/yr capacity zinc smelter, which it hopes to finish by yearend 2004. The company currently operates two zinc mines nearby capable of producing a combined 400,000 t of concentrates annually. A large part of financing for the new smelter is to come from state-subsidized bank loans, the parent company (Yunnan Metallurgical Group), and a small part will come from proceeds of an initial public offering (Metal Bulletin, 2002b). For those smelters that lack an adequate and steady source of concentrate, the outlook, at least for the immediate future, is not very promising. For example, China's second largest zinc producer, the Zhuzhou smelter, has decided to continue production in 2003 at the reduced 2002 level, which was about 50,000 t below the 2001 output (Metal Bulletin, 2002e).

Glencore International AG has reduced production by 20% at its Sardinian lead and zinc smelter at Porto Vesme until the Italian Government resolves the company's high energy cost. The plant's 910 employees produce about 200,000 t of zinc annually using 650 million kilowatt hours. The cost of electric energy in Italy is the highest of all countries in the European Union, putting Glencore at a disadvantage against other European zinc smelters. The Italian Regulatory Authority for Electricity and Gas has already decided against cutting the power cost for Porto Vesme, fearing that it would establish a precedent for other companies (Metal Bulletin, 2002c). Glencore is now awaiting a new energy law—Article 35—which would permit the allocation of cheap energy import quotas to select companies (Metal Bulletin, 2002d).

[1]References that include a section twist (§) are found in the Internet References Cited section.

Update

Mitsui Mining and Smelting Co. and Toho Zinc Co. Ltd. have agreed to negotiate on a possible partnership in zinc smelting. The two leading Japanese nonferrous smelters are to discuss streamlining their zinc operations in a similar way they consolidated their lead refining operations. The objective is to consider mutually consigning and conducting joint venture procurement of raw materials in order to maintain profitability at times of concentrate shortage and low zinc prices. Mitsui owns the Hikoshima and Kamioka smelters with a total capacity of about 155,000 t/yr and Toho owns the 140,000-t/yr Annak smelter (Metal Pages, 2003b§)

Because of low zinc metal price, China's Liuzhou Nonferrous Metals Smelter is considering not producing zinc ingot in 2003. Instead, it will increase the production of zinc oxide. The smelter has a capacity to produce 40,000 t of zinc ingot, but in 2002 it produced only one-half of that amount and stopped production entirely in December (Metal Pages, 2003a§).

References Cited

CRU International Ltd., 2002, CRU week in the news: CRU International, December 19, p. 2.

Metal Bulletin, 2002a, China faces difficult road for zinc and lead markets: Metal Bulletin, no. 8730, December 5, p. 8.

Metal Bulletin, 2002b, Chinese zinc producer plans new smelter: Metal Bulletin, no. 8727, November 25, p. 5.

Metal Bulletin, 2002c, Porto Vesme cuts production by 20%: Metal Bulletin, no. 8733, December 16, p. 5.

Metal Bulletin, 2002d, Porto Vesme waits for new energy law: Metal Bulletin, no. 8731, December 9, p. 5.

Metal Bulletin, 2002e, Zhuzhou to stick to zinc and lead cuts in 2003: Metal Bulletin, no. 8730, December 5, p. 5.

Mining Journal, 2002, Xstrata and MIM talking: Mining Journal, v. 339, no. 8712, November 22, p. 357.

Platts Metals Week, 2002a, Chinese 2003 zinc exports depend on price over $900: Platts Metals Week, v. 73, no. 45, November 11, p. 6.

Platts Metals Week, 2002b, Noranda postpones "Perseverance" mine: Platts Metals Week, v. 73, no. 51, December 23, p. 15.

Platts Metals Week, 2002c, Xstrata in talks with MIM on "change of control": Platts Metals Week, v. 73, no. 47, November 25, p. 6.

Internet References Cited

Metal Pages, 2002, Chinese car boom set to increase metals usage, accessed December 12, 2002, at URL http://www.metal-pages.com.

Metal Pages, 2003a, Liuzhou Nonferrous Metals Smelter may cease zinc ingot production in 2003, accessed January 7, 2003, at URL http://www.metal-pages.com.

Metal Pages, 2003b, Mitsui Mining and Toho Zinc tie up zinc businesses, accessed January 9, 2003, at URL http://www.metal-pages.com.

TABLE 1
SALIENT ZINC STATISTICS 1/

(Metric tons, unless otherwise specified)

		2002			
	2001	September	October	November	January-November
Production:					
Mine, zinc content of concentrate	842,000	57,300	70,800 r/	63,900	716,000
Mine, recoverable zinc	799,000	54,400 r/	68,100 r/	61,500	689,000
Smelter, refined zinc	311,000	17,900	16,100	21,800	235,000
Consumption:					
Refined zinc, reported	543,000	36,100 r/	34,200 r/	32,500	371,000
Ores e/ (zinc content)	727	61	61	61	666
Zinc-base scrap e/ (zinc content)	191,000	15,900	15,900	15,900	174,000
Copper-base scrap e/ (zinc content)	176,000	14,700	14,700	14,700	161,000
Aluminum- and magnesium-base scrap e/ (zinc content)	1,430	120	120	120	1,310
Total e/	912,000	66,900 r/	64,900 r/	63,300	709,000
Apparent consumption, metal 2/	1,140,000	92,500	87,600	91,000 3/	1,060,000
Stocks of refined (slab) zinc, end of period:					
Producer 4/	7,380	7,470	7,020	7,970	XX
Consumer 5/	57,100	57,500	58,000	57,400	XX
Merchant	10,300	10,300	10,800	10,800	XX
Total	74,700	75,200	75,800	76,200	XX
Shipments of zinc metal from Government stockpile	17,900	--	1,130	--	5,040
Imports for consumption:					
Refined (slab) zinc	813,000	71,000	69,800	NA	739,000 6/
Oxide (gross weight)	72,000	5,380	6,560	NA	58,600 6/
Ore and concentrate (zinc content)	84,000	--	5,010	NA	86,600 6/
Exports:					
Refined (slab) zinc	1,180	50	137	NA	1,040 6/
Oxide (gross weight)	11,300	846	878	NA	8,900 6/
Ore and concentrate (zinc content)	696,000	154,000	143,000	NA	784,000 6/
Waste and scrap (gross weight)	44,000	4,670	5,470	NA	39,200 6/
Price:					
London Metal Exchange, average, dollars per metric ton	$885.43	$755.88	$754.30	$764.91	$776.66
Platts Metals Week North American Special High Grade, average, cents per pound	43.96	37.81	37.71	38.09	38.55

e/ Estimate. r/ Revised. NA Not available. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; except prices; may not add to totals shown.

2/ Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

3/ Data based on reported consumption, stocks, and estimated trade data.

4/ Data from U.S. Geological Survey and American Bureau of Metal Statistics.

5/ Includes an estimate for companies that report annually.

6/ Includes data through October only.

TABLE 2
REFINED ZINC PRODUCED IN THE UNITED STATES 1/

(Metric tons)

Month	Beginning stocks 2/	Production	Shipments	Ending stocks 2/
2001:				
November	6,750	21,000	20,500	7,210
December	7,210	19,400	19,300	7,380
Year	XX	311,000	311,000	XX
2002:				
January	7,380	24,600	21,200	10,800
February	10,800	25,600	25,400	11,000
March	11,000	22,700	24,000	9,760
April	9,760	23,400	23,800	9,420
May	9,420	23,900	25,800	7,470
June	7,470	23,700	24,500	6,670
July	6,670	19,100	18,900	6,830
August	6,830	16,200	16,000	7,010
September	7,010	17,900	17,400	7,470
October	7,470	16,100	16,600	7,020
November	7,020	21,800	20,800	7,970
January-November	XX	235,000	234,000	XX

XX Not applicable.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes stocks held at locations other than smelters.

Sources: U.S. Geological Survey and American Bureau of Metal Statistics.

TABLE 3
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO INDUSTRY USE AND PRODUCT 1/

(Metric tons)

Industry and product	2001	2002			
		September	October	November 2/	January-November
Galvanizing:					
Sheet and strip	432,000	37,700	35,800	37,500	437,000
Other	146,000	13,500	12,400	13,500	163,000
Total	578,000	51,200	48,300	51,000	600,000
Brass and bronze	148,000	15,400	14,400	15,100	175,000
Zinc-base alloy	190,000	19,600	18,900	19,900	214,000
Other uses 3/	226,000	6,300	6,100	5,000	67,500
Grand total	1,140,000	92,500	87,600	91,000	1,060,000

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Data based on reported consumption, stocks and estimated trade data.

3/ Includes zinc used in making zinc dust, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 4
AVERAGE MONTHLY ZINC PRICES 1/

Period	North American ¢/lb.	LME cash ¢/lb.	LME cash $/t
2001:			
November	38.39	35.04	772.49
December	37.48	34.21	754.28
Year	43.96	40.16	885.43
2002:			
January	39.23	35.96	792.86
February	38.23	34.97	770.86
March	40.30	37.15	818.96
April	39.89	36.64	807.80
May	38.16	34.89	769.19
June	38.04	34.78	766.75
July	39.30	36.04	794.45
August	37.27	33.89	747.24
September	37.81	34.29	755.88
October	37.71	34.21	754.30
November	38.09	34.70	764.91
January-November	38.55	35.23	776.66

1/ Special High Grade.

Source: Platts Metals Week.

TABLE 5
U.S. EXPORTS OF ZINC 1/

Material	2001 Quantity (metric tons)	2001 Value (thousands)	2002 2/ October Quantity (metric tons)	2002 2/ October Value (thousands)	2002 2/ Year to date Quantity (metric tons)	2002 2/ Year to date Value (thousands)
Refined (slab) zinc	1,180	$1,290	137	$129	1,040	$999
Ore and concentrate (zinc content)	696,000	285,000	143,000	43,300	784,000	314,000
Waste and scrap (gross weight)	44,000	22,800	5,470	2,500	39,200	19,000
Powders, flakes, dust (zinc content)	4,690	7,230	381	683	4,120	6,260
Oxide (gross weight)	11,300	17,600	878	1,000	8,900	12,100
Chloride (gross weight)	1,730	1,630	208	207	1,610	1,690
Sulfate (gross weight)	4,780	2,900	236	150	2,480	1,530
Compounds, other (gross weight)	227	499	24	53	183	427

1/ Data are rounded to no more than three significant digits.
2/ Data for November 2002 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF ZINC 1/

Material	2001 Quantity (metric tons)	2001 Value (thousands)	2002 2/ October Quantity (metric tons)	2002 2/ October Value (thousands)	2002 2/ Year to date Quantity (metric tons)	2002 2/ Year to date Value (thousands)
Refined (slab) zinc	813,000	$773,000	69,800	$55,600	739,000	$607,000
Ore and concentrate (zinc content)	84,000	31,600	5,010	1,120	86,600	32,100
Waste and scrap (gross weight)	39,300	11,600	2,540	1,090	25,200	7,970
Powders, flakes, dust (zinc content)	26,700	45,000	2,730	4,070	26,100	40,800
Oxide (gross weight)	72,000	66,200	6,560	5,350	58,600	48,400
Chloride (gross weight)	946	1,020	68	65	569	587
Sulfate (gross weight)	16,200	7,330	1,310	697	16,000	8,160
Compounds, other (gross weight)	1,400	1,360	124	237	891	987

1/ Data are rounded to no more than three significant digits.
2/ Data for November 2002 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 7
SHIPMENTS OF ZINC METAL FROM THE NATIONAL DEFENSE STOCKPILE 1/

(Metric tons)

Period	Beginning inventory	Shipments	Ending inventory
2001:			
November	120,000	--	120,000
December	120,000	100	120,000
Year	XX	17,900	XX
2002:			
January	114,000	220	114,000
February	114,000	--	114,000
March	114,000	202	113,000
April	113,000	197	113,000
May	113,000	1,220	112,000
June	112,000	741	111,000
July	111,000	890	110,000
August	110,000	445	110,000
September	110,000	--	110,000
October	110,000	1,130	109,000
November	109,000	--	109,000
January-November	XX	5,040	XX

XX Not applicable. -- Zero.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: Defense Logistics Agency.

TABLE 8
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY 1/ 2/

(Metric tons)

	General imports			Imports for consumption		
		2002 2/			2002 2/	
Material and country	2001	October	Year to date	2001	October	Year to date
Ore and concentrate (zinc content):						
Australia	17,200	--	30,600	17,200	--	30,600
Mexico	10,700	--	9,380	10,700	--	9,380
Peru	54,900	5,010	43,300	54,900	--	43,300
Other	1,150	--	3,370	1,150	5,010	3,370
Total	84,000	5,010	86,600	84,000	5,010	86,600
Blocks, pigs, or slab:						
Australia	55,700	--	35,000	29,600	25	21,000
Brazil	17,900	6,100	22,600	17,900	6,100	22,600
Canada	442,000	48,100	433,000	438,000	48,100	433,000
Chile	--	1,500	3,750	--	--	--
China	31,800	2,950	36,700	7,260	100	1,030
Japan	7,280	--	10,500	274	--	--
Kazakhstan	88900	--	82,300	88900	--	82,300
Korea, Republic of	30,600	13,600	73200	10,800	--	2,480
Mexico	141,000	10,500	117,000	140,000	10,500	117,000
Peru	48,800	4,840	31,700	47,600	4,840	29,700
Poland	8,530	--	7,740	8,530	--	7,740
Russia	14,400	--	10100	14,400	--	10,100
Other	16,100	178	19,100	10,100	178	12,200
Total	903,000	87,700	882,000	813,000	69,800	739,000
Dross, ashes, fume (zinc content)	12,000	1,930	12,700	12,000	1,930	12,700
Grand total	999,000	94,700	981,000	909,000	71,700	838,000
Oxide (gross weight):						
Canada	47,500	4,310	37,600	47,500	4,310	37,600
China	227	42	798	227	42	798
Japan	1,110	108	694	1,110	108	694
Mexico	18,900	1,850	16,600	18,900	1,850	16,600
Netherlands	2820	181	2230	2820	181	2230
Other	1,390	63	669	1,390	63	669
Total	72,000	6,560	58,600	72,000	6,560	58,600
Other (gross weight):						
Waste and scrap	39,300	2,540	25,200	39,300	2,540	25,200
Sheets	7,240	147	1,420	7,240	147	1,420
Powders, flakes, dust (zinc content)	26,700	2,730	26,100	26,700	2,730	26,100

-- Zero.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Data for November 2002 were not available at time of publication.

Source: U.S. Census Bureau.